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# (12) United States Patent

Ercan et al.

### (54) METHOD FOR CONTROLLING AN ELECTRIC MACHINE RESTRICTING ENERGY LOSSES

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See application file for complete search history.

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#### (57) ABSTRACT

A method for controlling an electric machine in a hybrid or electric motor vehicle fed by a battery by power electronics, the battery including an assembly of modules interconnected in series and the method realizes a module-commutation in which each module can be selectively disconnected from the assembly. The method includes: calculating energy losses as a function of current operating characteristics of the electric machine, or respectively for each of a plurality of possible module-commutation configurations; determining at least one optimum module-commutation configuration from the plurality of possible module-commutation configurations, reducing energy losses to a minimum; and commutating the modules according to the previously determined optimum commutation configuration.

#### 8 Claims, 1 Drawing Sheet

